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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,622	05/08/2006	Robert Andersen	06049	3711
23338 7590 07/22/2009 DENNISON, SCHULTZ & MACDONALD 1727 KING STREET SUITE 105 ALEXANDRIA, VA 22314				
EXAMINER PATEL, RITA RAMESH				
ART UNIT		PAPER NUMBER		
1792				
MAIL DATE		DELIVERY MODE		
07/22/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/578,622

Applicant(s)

ANDERSEN ET AL.

Examiner

RITA R. PATEL

Art Unit

1792

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 April 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/5508)
- Paper No(s)/Mail Date 4/7/09
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Inventor's Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Applicant's Arguments / Amendments

This Office Action is responsive to the amendment filed on 4/7/09. Claims 17-32 are pending. Claims 1-16 have been canceled. Claims 17-32 are new. Applicant's arguments have been considered, however, upon further search and consideration, the instant claims are rejected under new grounds of rejections and thus claims 17-32 are finally rejected for the reasons of record.

Applicant's Remarks filed 4/7/09 are drawn to the former rejection and are now considered moot because of a new grounds of rejection taught herein.

Drawings

The objections over the drawings have been overcome due to Applicant's amendments to the drawings illustrating the wheels in at least Figure 5.

Specification

The objection over the disclosure has been overcome due to Applicant's amendment to the Specification submitted 4/7/09.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over van der Tak (Patent No. 4,838,193) and further in view of Ajnefors (Patent No. 3,420,444).

Van der Tak teaches a scrubbing machine 1 (rotary disc member) useful for cleaning the hull of a ship, comprising a holder in which a brush 3 is rotated about a rotary brush shaft. A drive 4 is controlled by pressure through a line 12, by a hydraulic pressure vessel (col. 3, lines 38-41) (hydraulic motor). As illustrated in Figure 7, wheels 23 are formed concentrically around the machine.

Van der Tak discloses the claimed invention except fails to teach the use of nozzles in combination with its invention. However, Ajnefors teaches a known jet nozzle 18 for washing cargo tanks of ships. Jet nozzle 18 may be oscillated and/or rotated about a vertical axis and/or a horizontal axis. Ajnefors discloses that this type of jet nozzle controls more accurately the parts of the tank/hull being washed, operates quickly, and efficiently uses water and energy (col. 1, lines 32-36, inter alia). Therefore, for at least these beneficial reasons, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a cleaning nozzle as known in the art of washing ship's hulls, as taught by Ajnefors, in the combination with the brushes in the invention of van der Tak to reap benefits in further controlling the specific areas of the hull being washed, increasing cleaning efficiency and saving time, money, and resources. Each brush of van der Tak would be outfitted with a corresponding spray nozzle.

Ajnefors' disclosure of an angular nozzle reads on Applicant's claims for a nozzle being obliquely attached, and thus inherently having at least parallel, tangential, and radial velocity components.

It would have been obvious to one of ordinary skill in the art at the time of the invention to optimize the following features of this invention: the size and angular speed of the plate 1 (rotary disc) and the pressure of the water being supplied to the nozzles. Optimizing these features are commonly performed dependent on the number of spray nozzles being used, the size of the motor, the depth of the ship, the dirtiness of the ship, the size of the cleaning apparatus, etc. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Lastly, Ajnefors fails to recite specific detail regarding the shape of the opening of its spray nozzle. It appears in Figure 1 of Ajnefors that the opening of the spray nozzle is circularly shaped. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to also use a "slit shaped" opening in Ajnefors as claimed, since Applicant has not disclosed that a slit shaped opening solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with other commonly shaped nozzle openings and the selection of any of these known equivalents to provide equivalent jet spraying means would be within the level of ordinary skill in the art.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Lundberg (Patent No. 4,314,521) teaches a method an apparatus in the treatment of underwater surfaces of fixed or floating constructions.

Orita et al. (Patent No. 4,574,722) teaches an underwater cleaning apparatus.

Wachi (Patent No. 4,604,960) teaches an apparatus for cleaning underwater surfaces.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RITA R. PATEL whose telephone number is (571)272-8701. The examiner can normally be reached on M-F: 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571) 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rita R. Patel/
Examiner, Art Unit 1792

/Alexander Markoff/
Primary Examiner, Art Unit 1792